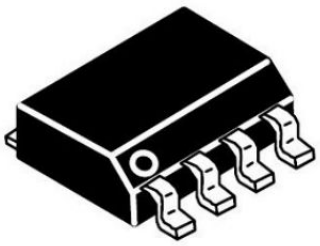
Transient Voltage Suppressors for ESD Protection

LC3304EP8

Description

The LC3304EP8 is low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over-voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

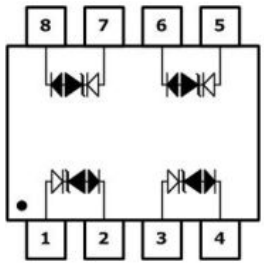
SOP-08



Feature

- 450 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects two line pairs (four lines)
- Low capacitance
- RoHS Compliant
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact) -- A Pair
- IEC61000-4-4 (EFT) 40A (5/50 η s)
- IEC61000-4-5 (Lightning) 25A (8/20μs) -- A Pair

Functional Diagram



Applications

- High-Speed Data Lines
- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Test & Measurement Equipment
- Switching Systems
- Instrumentation
- Audio/Video Inputs

Mechanical Data

- JEDEC SOP-08 Package
- Molding Compound Flammability Rating : UL 94V-O
- Weight 70 Millgrams (Approximate)
- Quantity Per Reel : 500pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
Ppp	**Peak Pulse Power (tp=8/20μs waveform)**	450	Watts
T_J	**Operating Junction Temperature Range**	-55 to +150	ºC
T_{STG}	**Storage Temperature Range**	-55 to +150	ºC
T_L	**Soldering Temperature Range**	260	ºC

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Electrical Characteristics (@ 25℃ Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	3.3	--	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	3.5	--	--	V
Reverse Leakage Current	I_R	--	--	--	0.1	μA
Positive Clamping Voltage	V_C	I_{PP} =1A ;	--	--	5.8	V
		I_{PP} =25A ;	--	--	18	V
Capacitance Between I/O And GND	C_J	V_R =0V , f=1MHz ;	--	--	2	pF

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

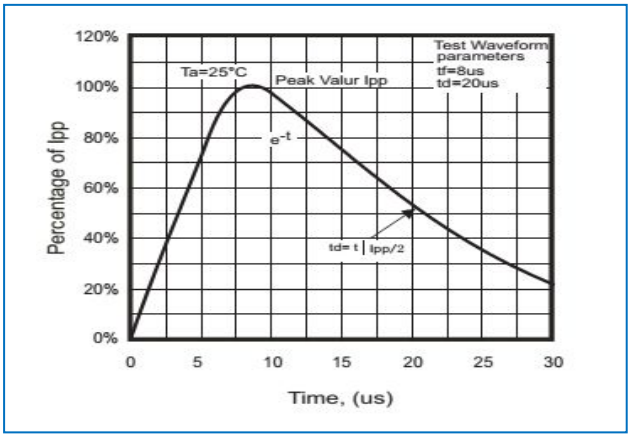


Fig2.ESD Pulse Waveform (according to IEC 61000-4-2)

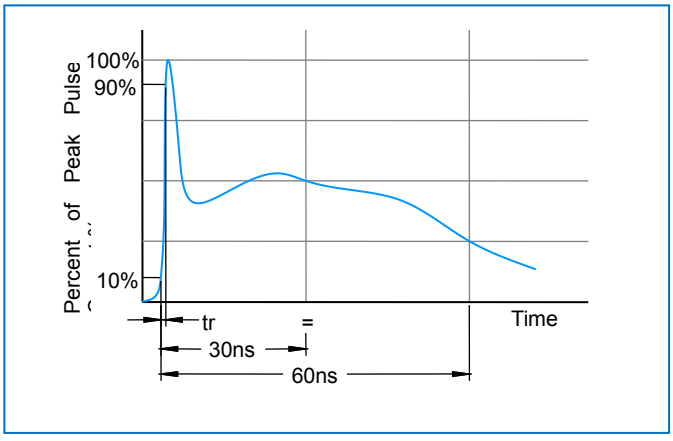


Fig3. Non-Repetitive peak pulse power vs. Pulse Time

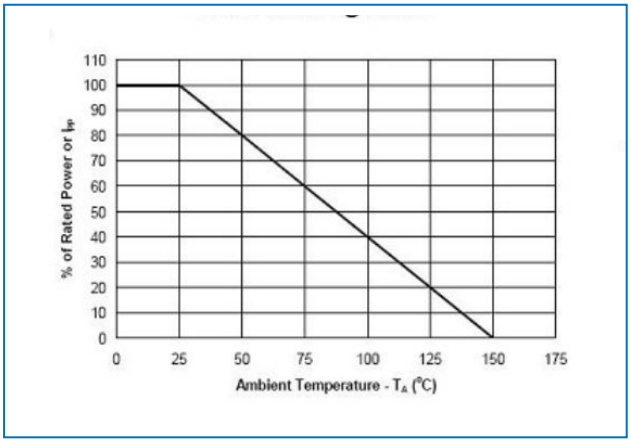
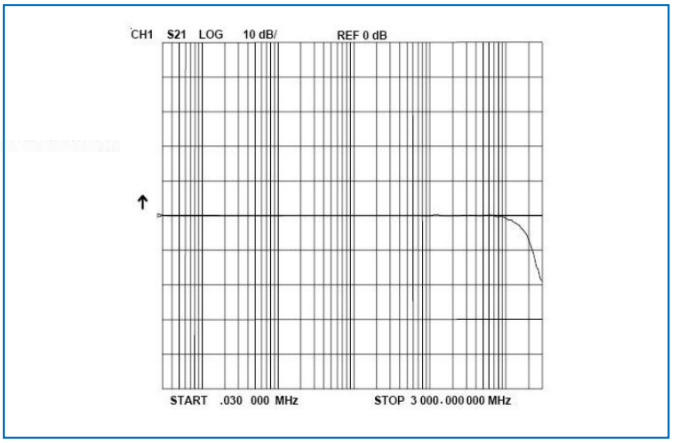


Fig4. Insertion loss S21



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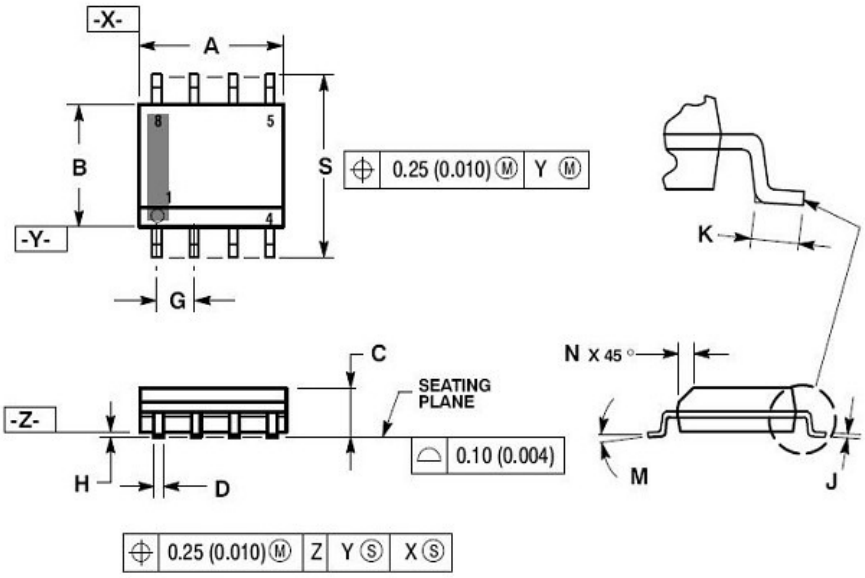
SOP-08 Package Outline & Dimensions



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

* SOLDERING FOOTPRINT